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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/688,788 | 10/16/2003 | Hiroataka Ishii | 15115.093001 | 9549 |

7590 06/29/2005

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EXAMINER

NGUYEN, HUNG T

ART UNIT PAPER NUMBER

2636

DATE MAILED: 06/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/688,788

Applicant(s)

ISHII, HIROTAKE

Examiner

Hung T. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 April 2004.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 7-14 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 7-9 and 11-13 is/are rejected.
7) ☒ Claim(s) 10 and 14 is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 16 October 2003 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2/2/04 & 4/1/04.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 7 & 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inagaki et al. (U.S. 4,800,288) in view of Mccaffrey et al. (WO 00/51345).

Regarding claims 7 & 11, Inagaki discloses a system including an imaging means having pixels arranged in a two dimensional matrix [figs.5,8-10, col.3, lines 46-54, col.7, lines 43-53 and abstract] comprising:

- pixel information (10) addition means for combining pixel information [figs.5,8-10, col.2, line 46 to col.3, line 5, col.3, lines 39-54, col.7, lines 54-67 and abstract]
- extracting the combined pixel information [figs.5,8-10, col.2, line 46 to col.3, line 5, col.3, lines 39-54, col.7, lines 54-67 and abstract].

Inagaki does not specifically mention the system having a frame rate of the imaging means.

Mccaffrey teaches a technique of having a CMOS APS imager (215) with both concurrent high resolution and low resolution area display. The imager (215) uses dual read out paths (230,110) to increase the frame rate of the wide field while simultaneously providing high

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resolution images for object identification. The high resolution image has a frame rate is sixteen time lower than the low resolution image when equal output clocking frequency are used [figs. 2-4, abstract and page 12, lines 18 to page 13, line 2].

Therefore, it would have been obvious to one having ordinary skill in the art to employ the teaching of Mccaffrey in the system of Inagaki for controlling and displaying the object identification in quality and clarity images at the real time.

2. Claims 8-9 & 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inagaki et al. (U.S. 4,800,288) in view of Mccaffrey et al. (WO 00/51345) further in view of Bender et al. (U.S. 5,835,028).

Regarding claim 8, Both Inagaki and Mccaffrey do not specifically mention the system is car mounted imaging apparatus as claimed by the applicant

Bender teaches an image sensor (12) which may mount to a vehicle and positioned to view the lane of a roadway ahead of the vehicle [figs.1-4, col.2, lines 5-20, col.3, lines 26-46].

Therefore, it would have been obvious to one having ordinary skill in the art to have the teaching of Mccaffrey & Bender in the system of Inagaki for car driving assistance and detecting the obstacles in front of the car.

Regarding claims 9 & 12-13, Bender teaches an image sensor (12) which may mount to a vehicle and positioned to view the lane of a roadway ahead of the vehicle [figs. 1-4, col.2, lines 5-20, col.3, lines 26-46].

Allowable Subject Matter

3. Claims 10 & 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Taylor (U.S. 5,249,157) Collision avoidance system.
- Margulis et al. (U.S. 6,340,994) System and method for using temporal gamma and reverse super-resolution to process images for use in digital display system.

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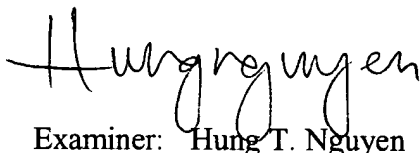
5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung T. Nguyen whose telephone number is (571) 272-2982.

The examiner can normally be reached on Monday to Friday from 8:00am to 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hofsass, Jeffery can be reached on (571) 272-2981. The fax phone number for this Group is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-4700.

HUNG NGUYEN
PRIMARY EXAMINER



Examiner: Hung T. Nguyen

Date: June 23, 2005